		<b>Tesla, Inc.</b> Service Bulletin		<b><i>Replace Refrigerant Pressure/Temperature Sensors</i></b>
<b>SB-21-18-001</b> February 5, 2021				
<b>Classification</b>		<b>Section/Group</b>		
Repair Bulletin		18 - Thermal Management		<b>Mobile Service</b>
				Cannot Perform
<b>Model Year</b>	<b>Model</b>	<b>Country/Region</b>		<b>Version</b>
2020 - 2021	Model 3, Model Y	All		Heat Pump
The model(s) and model year(s) listed are a general approximation of the affected VIN list. Refer to the VIN/Bulletin Tracker or Customer/Vehicle profile to determine applicability of this bulletin for a particular vehicle.				

Repair Bulletin: This repair bulletin provides instructions on addressing a noted condition or possible customer concern regarding the operation of Tesla vehicles. These instructions should only be performed by trained professionals.

## Condition

Some Model 3 and Model Y vehicles may be equipped with refrigerant pressure/temperature (P/T) sensors in the heat pump that can fault over time.

## Correction

Upon customer complaint of affected cabin heating or cooling, inspect the vehicle for symptoms related to the condition. If symptoms are present, replace all 3 refrigerant P/T sensors.

Correction Description		Correction	Time
Inspect And Replace Refrigerant P/T Sensors		S012118001	1.5

	Part Number	Description	Quantity
<b>Parts Required</b>	1510047-00-B	PT SENSOR, HIGH PRESSURE	2
	1510048-00-B	PT SENSOR, LOW PRESSURE	1
	<b>And if available:</b>		
	1111738-00-A	WASHER, 1/2, STL ZN, SEAL	1
	1111740-00-A	WASHER, 3/4, STL ZN, SEAL	1
<small>These part numbers were current at the time of publication. Use the revisions listed <b>or later</b>, unless otherwise specified in the <a href="#">Parts Catalog</a>.</small>			
<b>Special Tools</b>	1588741-00-A	Model Y HVAC Socket Kit	
	1501412-00-A	Oil Injector, R1234YF	

## Procedure

1. Check the vehicle for any of the following alerts.

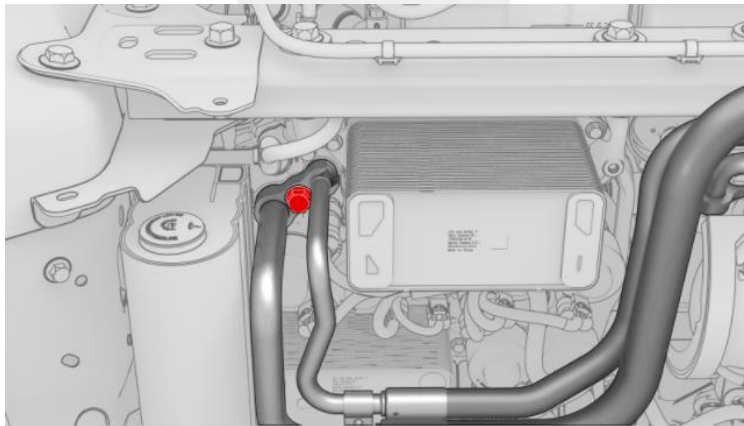
- If none of the below alerts are displayed, then the issue is not resolved by this bulletin. Cancel this bulletin activity so that it remains available for a possible future application, and discontinue this procedure.
- If any of the alerts are displayed, continue to the next step.

VCFRONT\_a136\_refrigDischTempSns  
VCFRONT\_a137\_refrigDischPresSns  
VCFRONT\_a138\_refrigSuctTempSns  
VCFRONT\_a139\_refrigSuctPresSns  
VCFRONT\_a279\_refrigLiquidTempSns  
VCFRONT\_a280\_refrigLiquidPresSns  
VCFRONT\_a452\_dischargePresSensIntermittent  
VCFRONT\_a453\_dischargeTempSensIntermittent  
VCFRONT\_a454\_suctionPresSensIntermittent  
VCFRONT\_a455\_suctionTempSensIntermittent  
VCFRONT\_a456\_liquidPresSensIntermittent  
VCFRONT\_a457\_liquidTempSensIntermittent

2. Remove the underhood storage unit (refer to Service Manual procedure 15240702), [Model 3](#), [Model Y](#).

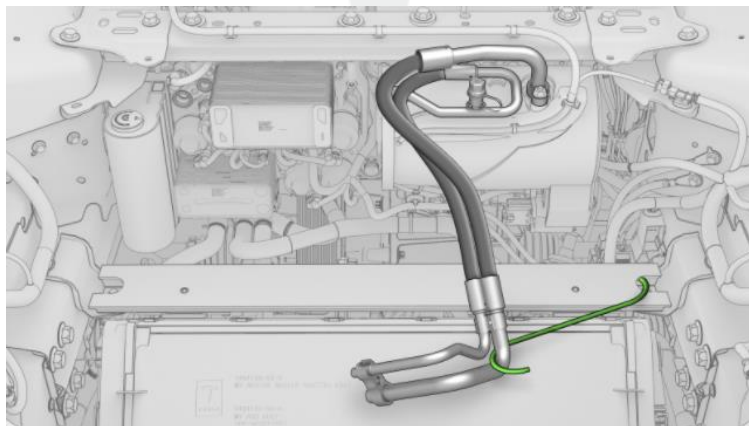
3. Recover the A/C refrigerant (refer to Service Manual procedure 18200102), [Model 3](#), [Model Y](#).

4. Remove the bolt that attaches the Supermanifold-to-compressor A/C line to the Supermanifold (Figure 1).



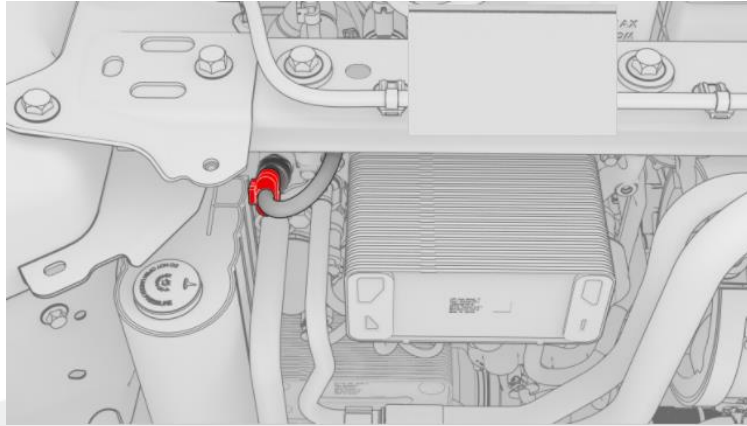
**Figure 1**

5. Remove the Supermanifold-to-compressor A/C line from the Supermanifold, and then use an S-hook to restrain the line to the underhood storage unit support beam (Figure 2).



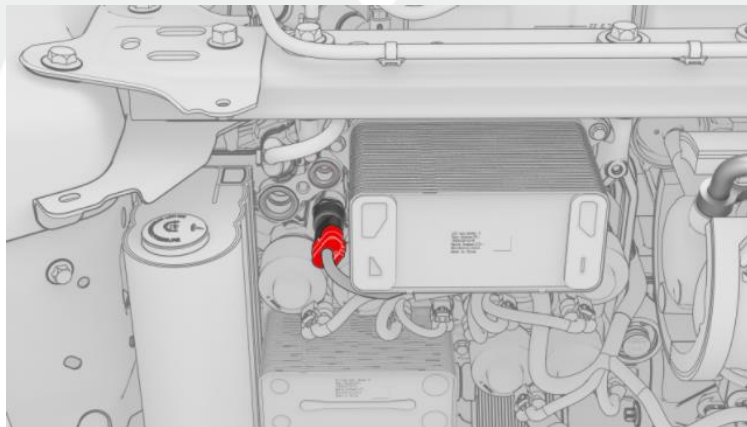
**Figure 2**

6. Release the locking tab, and then disconnect the electrical harness from the low pressure P/T sensor connector (Figure 3).



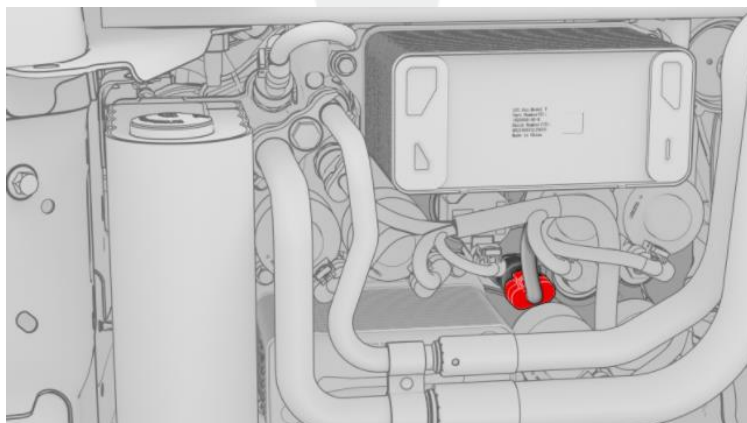
**Figure 3**

7. Release the locking tab, and then disconnect the electrical harness from the high pressure P/T sensor connector (Figure 4).



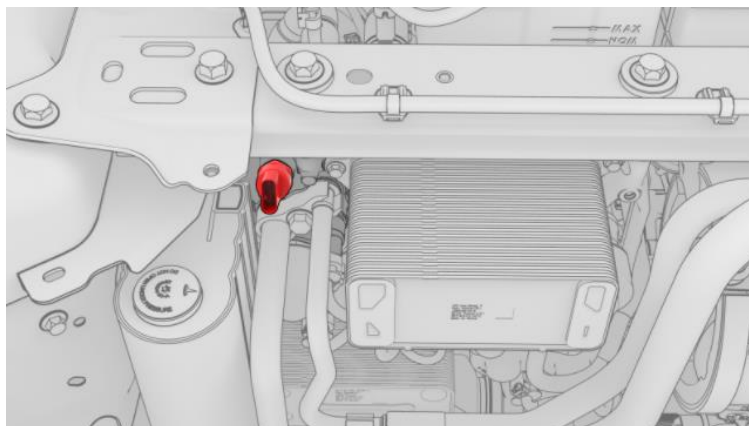
**Figure 4**

8. Release the locking tab, and then disconnect the electrical harness from the subcool high pressure P/T sensor connector (Figure 5).



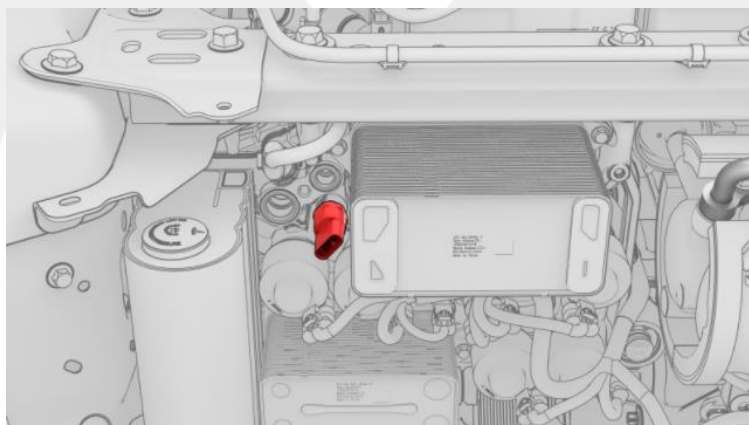
**Figure 5**

9. Use the HVAC socket kit to remove the low pressure P/T sensor from the Supermanifold (Figure 6).



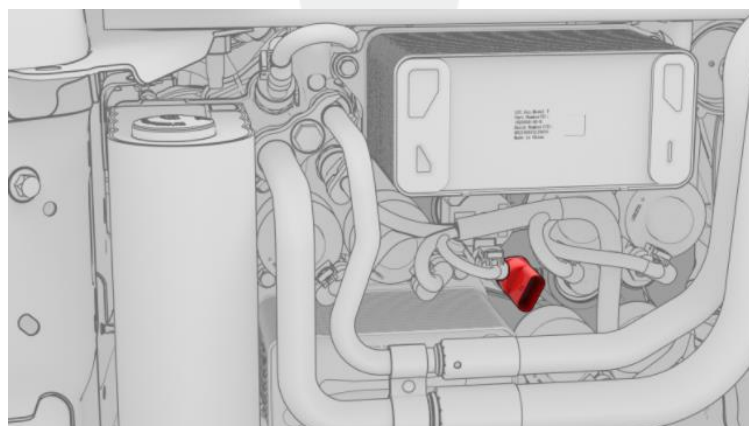
**Figure 6**

10. Use the HVAC socket kit to remove the high pressure P/T sensor from the Supermanifold (Figure 7).



**Figure 7**

11. Use the HVAC socket kit to remove the subcool high pressure P/T sensor from the Supermanifold (Figure 8).



**Figure 8**

12. Return the removed P/T sensors to MRB as Special Interest, attention the HVAC Department.
13. If parts are available, install new washers on the Supermanifold-to-compressor A/C line.
14. Lubricate the washers of the Supermanifold-to-compressor A/C line and the O-rings and threads of the 3 new P/T sensors with ND-11 oil.
15. Hand-install the new subcool high pressure P/T sensor (black connector) into the Supermanifold, and then use the HVAC socket kit to tighten (torque 9 Nm) (Figure 8).

16. Hand-install the new high pressure P/T sensor (black connector) into the Supermanifold, and then use the HVAC socket kit to tighten (torque 9 Nm) (Figure 7).
17. Hand-install the new low pressure P/T sensor (brown connector) into the Supermanifold, and then use the HVAC socket kit to tighten (torque 9 Nm) (Figure 6).
18. Connect the electrical harness to the subcool high pressure P/T sensor connector, and then fasten the locking tab (Figure 5).
19. Connect the electrical harness to the high pressure P/T sensor connector, and then fasten the locking tab (Figure 4).
20. Connect the electrical harness to the low pressure P/T sensor connector, and then fasten the locking tab (Figure 3).
21. Release the Supermanifold-to-compressor A/C line from the S-hook (Figure 2), install the A/C line into the Supermanifold, hand-install the bolt that attaches the A/C line to the Supermanifold, and then tighten (torque 22 Nm) (Figure 1).
22. Perform the vacuum leak test and oil injection (refer to Service Manual procedure 18200102), [Model 3](#), [Model Y](#).
23. Recharge the A/C refrigerant (refer to Service Manual procedure 18200102), [Model 3](#), [Model Y](#).



**NOTE:** Do not disconnect the laptop from the vehicle at this time.

24. In Toolbox, click the **Actions/Autodiag** tab, type "Thermal" in the search field, click **TEST-SELF\_VCFRONT\_X\_THERMAL-PERFORMANCE**, click **RUN**, and allow the routine to complete.
25. Disconnect the laptop from the vehicle.
26. Install the underhood storage unit (refer to Service Manual procedure 15240702), [Model 3](#), [Model Y](#).